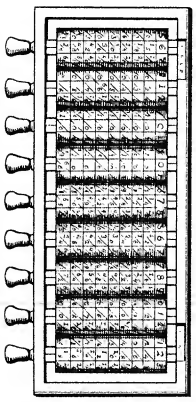
1617: "Napier's Bones"

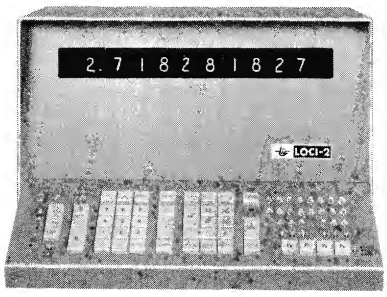
an inspiration for a calculating tool . . .



. . . to perform AxB — probably invented to save time and reduce error in compiling his 8-place tables of ln(X). These famous tables opened new realms in arithmetical computations. Even to the modern scientist, Napier's contributions are mathematical tools of fundamental significance.

1965: the LOCI*

an inspiration for a desk-top digital computer . . .



* LOCI — LOgarithmic Computing Instrument

. . . to perform AxB, as some do, and $\sqrt{A+BxC/D}$, as others do, and even ln(X) and e^X (X is any real number). For the modern scientist, only LOCI opens such new realms of mathematical analysis at his desk — with the response of larger computers and the convenience of simple calculators.

PRICE RANGE: $2750–$8450

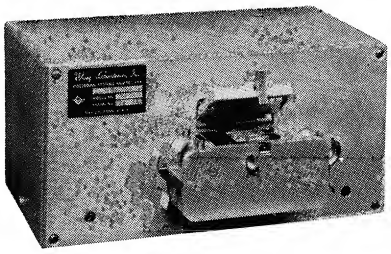
Wang Laboratories, Inc.

836 North Street • Tewksbury, Mass. 01876
Telephone (617) 851-7311

Ad appeared in the *SCIENTIFIC AMERICAN* September, 1965

WANG DIGITAL SYSTEMS ENGINEERING

PUNCHED TAPE BLOCK READER



A versatile input device for numerically controlled systems.

Tape: Standard 1 inch, 5, 6, 7 or 8 levels, paper or Mylar.

Capacity: Up to 32 lines per reading (256 bits).

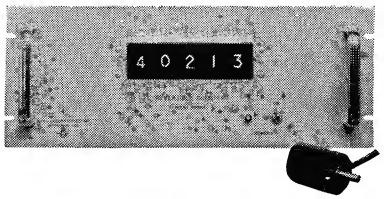
Speed: Up to 10 frames per second.

Output: Triple wire brush contacts, rated at 50v and 50ma non-inductive.

Performance: Several hundred million block advances with satisfactory operation. Automatic retract of reading head when changing tape.

Price: $1200. (6-12 lines). $100. for each additional group of 2 lines.

REVERSIBLE COUNTER AND OPTICAL ENCODERS



Standard Features:

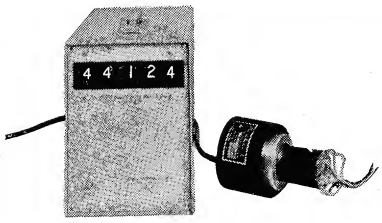
- 3-6 Decades plus Sign
- Transistorized
- NIXIE readouts
- DC to 200kc frequency response
- Compact—5¼"H x 19"W x 15"D
- Functions to:
  - a. add and/or subtract counts directly
  - b. add and/or subtract counts on "gate" command
  - c. inhibit, with no count

Many other modifications available.
Consult factory for details.

NON-CONTACT ENCODERS

- Available with Incremental, Direction Sensing Outputs, and Non-ambiguous. Absolute Outputs.
- Resolution covers from 1 to 1000 parts per turn and up to 10,000 turns.
- Size: 2" to 4"D & 1.5" to 6"L

SYNCHRO DIGITAL READOUT



COMPACT, VERSATILE SOLID-STATE READOUT EQUIPMENT

Some typical applications —

Antenna Position Readout
Radar Range Readout
Reactor Control Rod Position Measurement
Gyro Repeater Outputs for Ship Heading
Aircraft Heading
Multiple Station Shaft Rotation Monitor

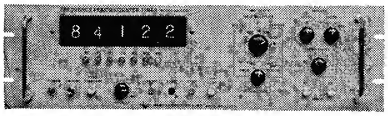
SPECIFICATIONS

Inputs: wires from synchro torque transmitter or control transformer
Forms available: single and dual speed
Resolutions: 100; 360; or 1000 parts/turn on the single turn or fine encoder units
Maximum counts: single speed — 100; 360; or 1000
dual speed — 3600; 10,000; 21,600; 36,000; or 100,000

BULLETIN NO. 26
Consult factory for details on variations available.

FREQUENCY, PERIOD AND COUNTER — TIMER

MODEL 5510 — 0/300 KC
(also available: Model 6610 — 0/1.2 MC)



BASIC SPECS: MODEL 5510

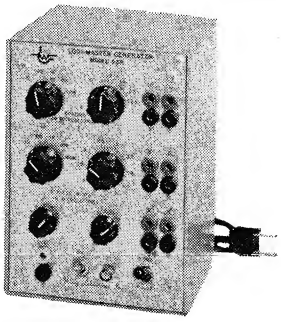
- **Readout:** In-line Nixie tubes with automatic decimal point indication.
- **Ranges:**
  a. Frequency: 0/300KC
  b. Time interval: 3μs — 10 Seconds
  c. Period: 3μs — 10 Seconds
  d. Multiple Period Avg.: 0/300KC
  e. Counting: 0/300KC
- **Time Basis:** 10μs — 10 Seconds
- **Accuracy:** ± 1 count ± oscillator sta-
- **Oscillator Stability:** short term — ± 2 parts in 10^6.
  Long term — 3 parts in 10^6.
- **Display Time:** .2 to 5 seconds continuously adjustable.
- **Input Sensitivity:** 100MV minimum to 100 V maximum.
- **Input:** DC and AC coupling. Impedance 1 meg ohm shunted by 50$\mu\mu$f.
- **Circuitry:** All solid state transistors.
- **Size:** for rack mount — 5¼" H. x 19" W. x 15"D.

Bulletin #22—Model 5510—300 KC
Bulletin #23—Model 6610—1.2 MC

Consult factory for details on modifications available.

LOGIMASTER

MODEL 5SP
SQUARE WAVE AND PULSE GENERATOR



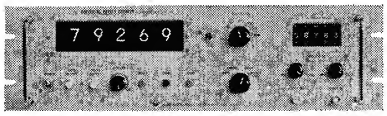
For laboratory and production testing.

A utility instrument which simultaneously generates —

- Square waves over a frequency range from 0.5 cps to 500KC
- Pulses with widths from 0.5 μs to 500 ms, and amplitude from 0 to −11v ±1v
- Two outputs from each, 180° out of phase
- Output can be continuous or on a "one-shot" basis with toggle switch control.
- Price $149.50, fob Tewksbury, Mass.
- Delivery: Available from stock.

UNIVERSAL PRESET COUNTER

MODEL 2019



SPECIFICATIONS:

A. Sensitivity: 100 mv to 10 volts RMS Channels A & B.

B. Inputs & Controls:
(1) Two Channels, A & B, by BNC Connector on front panel.
(2) Sensitivity & Test Controls on front panel for Channels A & B.
(3) **Time Base Multiplier Control:** 5 position switch in units of seconds, for 1, x 10, x 100, x 1000, and x 10,000.
(4) **Function Switch:** 4 positions for:
(a) Rate (for frequency, rate and ratio N X A/B. 2 cps to 300KC on input A for rate. For ratio, 2 cps to 300KC on input A; input B, 2 cps to 100KC on x 1 and to 300KC on x 10, 100, 1K, and 10K.
(b) **For Time Interval & Period Measurements:** 2 cps to 100KC on Input A; to 300KC on x 10, 100, 1K, & 10K.
(c) Count (for manual count control) Input A 2 cps to 300KC.
(d) Preset Gate (for batch and preset counting) 2 cps to 100KC on Input A; to 300KC on x 10, 100, 1K, & 10K.
(5) **Reset, Start & Stop:** By front panel push buttons and rear panel connectors.
(6) **Display Control:** Continuously adjustable from .2 to 5 seconds and infinite position.
(7) **Preset:** 5 decades of in-line Digital Switches on the front panel for control of Input A.
(8) Gate Output for Time Base & Pulse Output when reaching end of preset count available on rear BNC connectors.

Consult factory for details on modifications available.

Wang Laboratories, Inc. NORTH STREET • TEWKSBURY, MASS. • 617-851-7311

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